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10/006,930	12/06/2001	John P. Del Favero JR.	770.02	9296

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DERGOSITS & NOAH LLP
FOUR EMBARCADERO CENTER, SUITE 1450
SAN FRANCISCO, CA 94111

EXAMINER	
NGUYEN, MERILYN P	
ART UNIT	**PAPER NUMBER**
2163	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/006,930	DEL FAVERO ET AL.	
	Examiner	Art Unit	
	Merilyn P. Nguyen	2163	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 May 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,5-10,12 and 14-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 2, 5-10, 12, 14-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11/29/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☒ Other: *Detailed Action*.

DETAILED ACTION

1. This application claims priority to Provisional Application No. 60286259 filed on April 24, 2001 and No. 60254298 filed on December 8, 2000.

2. In response to the communication dated 05/30/2006, claims 1-2, 5-10, 12, and 14-33 are pending in this office action.

Acknowledges

3. Receipt is acknowledged of the following items:

Information Disclosure Statement (IDS) filed on November 29, 2005 and made of record. The references cited on the PTOL 1449 form have been considered.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 23 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claim recites the first series of user word or phrase menu selections are based upon a user profile associated with the user was not described in the specification. Figure 8 and

corresponding text only support the claimed limitation of "the second series of user word or phrase menu selections are based upon a user profile associated with the user.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14 recites the limitation "constructing step (b)" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-2, 5-9 and 29-32 rejected under 35 U.S.C. 102(e) as being anticipated by Narasimhan (US 6,237,145).

Regarding claims 1-2, 5-9 and 29-32, Narasimhan discloses a method for formulation of queries for use in accessing information from a knowledge base (See col. 5, line 40 to col. 6, line 16), said method comprising:

(a) displaying a first menu list of words or phrases (See col. 5, lines 44-50);

(b) receiving a first selection of at least one of the words or phrases in the first menu list from a user (See col. 5, lines 49-50);

(c) receiving user profile information associated with a user formulating the queries (See col. 5, line 66 to col. 6, line 12).

(d) obtaining a second menu list of words or phrases based on the first selection of at least one of the words or phrases in the first menu list and the user profile information (See col. 5, line 66 to col. 6, line 12).

(e) receiving a second selection of at least one of the words or phrases in the second menu list from the user (See col. 5, lines 60-65).

(f) formulating a query from at least the first selection and the second selection (See col. 5, lines 60-65) as per claims 9.

wherein said obtaining (d) comprises dynamically generating the second menu list based on the first selection of at least one of the words or phrases in the first menu list (See col. 5, line 50-55) as per claims 2, 7, and 30.

wherein the query is a natural language phrase, sentence or question (See col. 5, lines 50-65) as per claims 5-6 and 31-32.

Regarding claim 8, Narasimhan discloses said obtaining (d) comprises selecting the second menu list from a plurality of predetermined menu lists based on the first selection of at least one of the words or phrases in the first menu list (See Figs. 2 and 3, and col. 5, lines 50-60).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-2, 5-10, 12, and 14-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson (US 6,460,031), in view of Gobburu (US 6,736,322).

Regarding claims 1-2, 5-7, 9 and 29-32, Wilson discloses a method for formulation of queries for use in accessing information from a knowledge base (See col. 2, line 55-67), said method comprising:

(a) displaying a first menu list of words or phrases (See col. 3, lines 1-3);

(b) receiving a first selection of at least one of the words or phrases in the first menu list from a user (See col. 3, lines 1-5);

Wilson is silent as to receiving user profile information associated with a user formulating the queries. On the other hand Gobburu teaches receiving user profile information associated with a user formulating the queries (See col. 22, lines 49-59, Gobburu et al.). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to formulate queries based on user profile information as suggested by Gobburu. The motivation

would have been to provide users with quickly access to the information that is likely to be interested by the users.

(d) obtaining a second menu list of words or phrases based on the first selection of at least one of the words or phrases in the first menu list (See col. 3, lines 5-10, Wilson et al.). And, the combination of Wilson and Gobburu suggests obtaining a second menu list of words or phrases based on the user profile information so that focusing on user interest by applying user profile information.

(e) receiving a second selection of at least one of the words or phrases in the second menu list from the user (See col. 5, lines 53-60).

(f) formulating a query from at least the first selection and the second selection (See col. 6, lines 20-44) as per claims 9.

wherein said obtaining (d) comprises dynamically generating the second menu list based on the first selection of at least one of the words or phrases in the first menu list (See col. 3, line 4-5) as per claims 2, 7, and 30.

wherein the query is a natural language phrase, sentence or question (See col. 2, lines 65-67, and col. 6, lines 39-44) as per claims 5-6 and 31-32.

Regarding claim 8, Wilson/Gobburu discloses said obtaining d) comprises selecting the second menu list from a plurality of predetermined menu lists based on the first selection of at least one of the words or phrases in the first menu list (See Fig. 4, and col. 5, lines 39-60, Wilson et al.).

Regarding claim 10, Wilson/Gobburu discloses (g) displaying the query produced by combining step (f) (618, Fig. 6, Wilson et al.).

Regarding claims 12, 17, and 19, Wilson, in view of Gobburu, discloses all the claimed subject matter as set forth above in claims 1,2 and 5. However, Wilson is silent as to use a mobile computing device to operate the method of claims 1, 2 and 5. Gobburu teaches a mobile computing device using menus to generate queries (See Figs. 1-9, Gobburu et al.). Since Wilson uses computer system to operate the method of formulating queries using menus. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to incorporate and use menus to generate queries into a mobile computing device as suggested by Gobburu. The motivation would have been to enhance the flexibility and convenience of the system so that the system can be used anywhere.

Regarding claim 14, Wilson/Gobburu discloses wherein the one or more phrases, sentences or questions being constructed by said constructing (b) are natural language phrases, sentences or questions (See col. 2, lines 65-67, and col. 6, lines 39-44, Wilson et al.).

Regarding claim 15, Wilson/Gobburu discloses (c) displaying the one or more phrases, sentences or questions from said constructing (b) (See col: 4, lines 42-49, also Fig. 6, and col. 6, line17-44, Wilson et al.);

Regarding claim 16, Wilson/Gobburu discloses wherein said displaying (c) operates to incrementally update the one or more phrases, sentences or questions being displayed as each of the series of user word or phrase menu selections are individually made (See col. 7, lines 9-15, Wilson et al.).

Regarding claim 18, Wilson/Gobburu discloses wherein at least adjacent ones of the menus in the series of menus have a grammatical and/or contextual relationship (See Fig. 4, Wilson et al.).

Regarding claim 20, Wilson/Gobburu discloses wherein said constructing (b) operates to construct the one or more phrases, sentences or questions based on the series of user word or phrase menu selections and based on one or more of user selection history, user preferences, content or application (See col. 5, lines 1-10, Wilson et al.).

Regarding claim 21, Wilson/Gobburu discloses wherein the series of menus are predetermined (See col. 5, lines 42-60, Wilson et al.).

Regarding claim 22. Wilson/Gobburu discloses wherein a plurality of the menus in the series of menus are dynamically determined in response to menu selections (See col. 3, line 4-5, Wilson et al.).

Regarding claim 23, Wilson/Gobburu discloses a method for retrieving information from a knowledge base for a user, said method comprising:

(a) constructing a natural language query from a first user selection from a first series of user word or phrase menu selections and a second user selection from a second series of user word or phrase menu selection (See Figs. 4, 5, 6, and col. 5, line 39 to col. 6, line 44, Wilson et al.), wherein the first series and the second series of user word or phrase menu selections are based upon a user profile associated with the user as addressed above in claim 1;

(b) processing the natural language query to obtain a response from the knowledge base (See col. 6, line 57 to col. 7, line 15, Wilson et al.); and

(c) displaying the response to the user (See col. 7, lines 15-16, Wilson et al.).

Regarding claims 24 and 26, Wilson/Gobburu discloses a method for retrieving pertinent information from a data source for a user, said method comprising:

(a) displaying an initial menu of words or phrases (See col. 5, lines 61-54, Wilson et al.);

(b) receiving an initial user menu selection of at least one of the words or phrases of the initial menu from the user (See col. 5, lines 64-66, Wilson et al.);

(c) obtaining a subsequent menu of words or phrases based on the s initial user menu selection (See col. 5, line 66 to col. 6, line 2, Wilson et al.) and user profile information associated with the user as addressed above in claim 1;

(d) displaying the subsequent menu of words or phrases is based upon a profile of the user (See col. 5, line 66 to col. 6, line 2, Wilson et al. and as addressed above in claim 1);

(e) receiving a subsequent user menu selection of at least one of the words or phrases of the subsequent menu from (See col. 6, lines 2-3, Wilson et al.);

(f) displaying an initial query in accordance with at least the to subsequent user menu selection (See col. 4, lines 42-49, also Fig. 6, and col. 6, line17-44, Wilson et al.);

(g) determining whether additional user menu selections are desired or needed (See Col. 6, lines 17-44, Wilson et al.);

(h) repeating said obtaining (c) through said displaying (f) until said determining (g) determines that no additional user menu selections are is desired or needed, wherein an updated query is displayed by said displaying (f) in accordance with at least the plurality of the subsequent user menu selections (See 618, Fig. 6, and Col. 7, lines 9-15, Wilson et al.);

(i) obtaining a response to the updated query (See Col. 7, lines 9-15, Wilson et al.); and

(j) presenting and displaying the response to the user (See col. 7, lines 15-16, Wilson et al.).

Regarding claim 25, Wilson/Gobburu discloses wherein the obtaining (i) comprises:

(i1) forming a request for the response to the updated query (See col. 7, lines 9-14, Wilson et al.);

(i2) transmitting the request to a remote server from which the response is obtained (See col. 7, lines 13-15, Wilson et al.); and

(i3) receiving the response from the remote server (See col. 7, lines 15-16, Wilson et al.).

Regarding claim 27, Wilson/Gobburu discloses wherein the words or phrases in the initial menu are concepts (See Fig. 6, Wilson et al.).

Regarding claim 28, Wilson/Gobburu discloses wherein the initial query and the updated query are natural language queries (See col. 2, lines 65-67, and col. 6, lines 39-44, Wilson et al.).

Regarding claim 33, Wilson/Gobburu discloses whereby the phrase, sentence or question is form through menu selections of words or phrases and thus without having to enter individual characters therefor (See Fig. 4, and col. 5, lines 39-60, Wilson et al.).

8. Claims 1-2, 5-10, and 23-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson (US 6,460,031), in view of Narasimhan (US 6,237,145).

Regarding claims 1-2, 5-7, 9 and 29-32, Wilson discloses a method for formulation of queries for use in accessing information from a knowledge base (See col. 2, line 55-67), said method comprising:

(a) displaying a first menu list of words or phrases (See col. 3, lines 1-3);

(b) receiving a first selection of at least one of the words or phrases in the first menu list from a user (See col. 3, lines 1-5);

Wilson is silent as to receiving user profile information associated with a user formulating the queries and obtaining a second menu list of words or phrases based on the user profile information. On the other hand Narasimhan teaches receiving user profile information associated with a user formulating the queries and obtaining a second menu list of words or

phrases based on the user profile information (See col. 5, line 66 to col. 6, line 12, Narasimhan et al.). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to receive user profile information and obtaining a second menu list of words or phrases based on the user profile information as suggested by Narasimhan. The motivation would have been to provide users with quickly access to the information that is likely to be interested by the users.

(d) obtaining a second menu list of words or phrases based on the first selection of at least one of the words or phrases in the first menu list (See col. 3, lines 5-10, Wilson et al.). And, the combination of Wilson and Narasimhan suggests obtaining a second menu list of words or phrases based on the user profile information so that focusing on user interest by applying user profile information.

(e) receiving a second selection of at least one of the words or phrases in the second menu list from the user (See col. 5, lines 53-60).

(f) formulating a query from at least the first selection and the second selection (See col. 6, lines 20-44) as per claims 9.

wherein said obtaining (d) comprises dynamically generating the second menu list based on the first selection of at least one of the words or phrases in the first menu list (See col. 3, line 4-5) as per claims 2, 7, and 30.

wherein the query is a natural language phrase, sentence or question (See col. 2, lines 65-67, and col. 6, lines 39-44) as per claims 5-6 and 31-32.

Regarding claim 8, Wilson/ Narasimhan discloses said obtaining d) comprises selecting the second menu list from a plurality of predetermined menu lists based on the first selection of at least one of the words or phrases in the first menu list (See Fig. 4, and col. 5, lines 39-60, Wilson et al.).

Regarding claim 10, Wilson/ Narasimhan discloses (g) displaying the query produced by combining step (f) (618, Fig. 6, Wilson et al.).

Regarding claim 23, Wilson/ Narasimhan discloses a method for retrieving information from a knowledge base for a user, said method comprising:

(a) constructing a natural language query from a first user selection from a first series of user word or phrase menu selections and a second user selection from a second series of user word or phrase menu selection (See Figs. 4, 5, 6, and col. 5, line 39 to col. 6, line 44, Wilson et al.), wherein the first series and the second series of user word or phrase menu selections are based upon a user profile associated with the user as addressed above in claim 1;

(b) processing the natural language query to obtain a response from the knowledge base (See col. 6, line 57 to col. 7, line 15, Wilson et al.); and

(c) displaying the response to the user (See col. 7, lines 15-16, Wilson et al.).

Regarding claims 24 and 26, Wilson/ Narasimhan discloses a method for retrieving pertinent information from a data source for a user, said method comprising:

(a) displaying an initial menu of words or phrases (See col. 5, lines 61-54, Wilson et al.);

(b) receiving an initial user menu selection of at least one of the words or phrases of the initial menu from the user (See col. 5, lines 64-66, Wilson et al.);

(c) obtaining a subsequent menu of words or phrases based on the s initial user menu selection (See col. 5, line 66 to col. 6, line 2, Wilson et al.) and user profile information associated with the user as addressed above in claim 1;

(d) displaying the subsequent menu of words or phrases is based upon a profile of the user (See col. 5, line 66 to col. 6, line 2, Wilson et al. and as addressed above in claim 1);

(e) receiving a subsequent user menu selection of at least one of the words or phrases of the subsequent menu from (See col. 6, lines 2-3, Wilson et al.);

(f) displaying an initial query in accordance with at least the to subsequent user menu selection (See col. 4, lines 42-49, also Fig. 6, and col. 6, line17-44, Wilson et al.);

(g) determining whether additional user menu selections are desired or needed (See Col. 6, lines 17-44, Wilson et al.);

(h) repeating said obtaining (c) through said displaying (f) until said determining (g) determines that no additional user menu selections are is desired or needed, wherein an updated query is displayed by said displaying (f) in accordance with at least the plurality of the subsequent user menu selections (See 618, Fig. 6, and Col. 7, lines 9-15, Wilson et al.);

(i) obtaining a response to the updated query (See Col. 7, lines 9-15, Wilson et al.); and

(j) presenting and displaying the response to the user (See col. 7, lines 15-16, Wilson et al.).

Regarding claim 25, Wilson/Narasimhan discloses wherein the obtaining (i) comprises:

(i1) forming a request for the response to the updated query (See col. 7, lines 9-14, Wilson et al.);

(i2) transmitting the request to a remote server from which the response is obtained (See col. 7, lines 13-15, Wilson et al.); and

(i3) receiving the response from the remote server (See col. 7, lines 15-16, Wilson et al.).

Regarding claim 27, Wilson/ Narasimhan discloses wherein the words or phrases in the initial menu are concepts (See Fig. 6, Wilson et al.).

Regarding claim 28, Wilson/ Narasimhan discloses wherein the initial query and the updated query are natural language queries (See col. 2, lines 65-67, and col. 6, lines 39-44, Wilson et al.).

Regarding claim 33, Wilson/ Narasimhan discloses whereby the phrase, sentence or question is form through menu selections of words or phrases and thus without having to enter individual characters therefor (See Fig. 4, and col. 5, lines 39-60, Wilson et al.).

9. Claims 12 and 14-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson (US 6,460,031), in view of Narasimhan (US 6,237,145), and further in view of Gobburu (US 6,736,322).

Regarding claims 12, 17, and 19, Wilson, in view of Narasimhan, discloses all the claimed subject matter as set forth above in claims 1, 2 and 5. However, Wilson, in view of Narasimhan is silent as to use a mobile computing device to operate the method of claims 1, 2 and 5. Gobburu teaches a mobile computing device using menus to generate queries (See Figs. 1-9, Gobburu et al.). Since Wilson uses computer system to operate the method of formulating queries using menus. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to incorporate and use menus to generate queries into a mobile computing device as suggested by Gobburu. The motivation would have been to enhance the flexibility and convenience of the system so that the system can be used anywhere.

Regarding claim 14, Wilson/Narasimhan/Gobburu discloses wherein the one or more phrases, sentences or questions being constructed by said constructing (b) are natural language phrases, sentences or questions (See col. 2, lines 65-67, and col. 6, lines 39-44, Wilson et al.).

Regarding claim 15, Wilson/Narasimhan/Gobburu discloses (c) displaying the one or more phrases, sentences or questions from said constructing (b) (See col. 4, lines 42-49, also Fig. 6, and col. 6, line17-44, Wilson et al.);

Regarding claim 16, Wilson/Narasimhan/Gobburu discloses wherein said displaying (c) operates to incrementally update the one or more phrases, sentences or questions being displayed as each of the series of user word or phrase menu selections are individually made (See col. 7, lines 9-15, Wilson et al.).

Regarding claim 18, Wilson/Narasimhan/Gobburu discloses wherein at least adjacent ones of the menus in the series of menus have a grammatical and/or contextual relationship (See Fig. 4, Wilson et al.).

Regarding claim 20, Wilson/Narasimhan/Gobburu discloses wherein said constructing (b) operates to construct the one or more phrases, sentences or questions based on the series of user word or phrase menu selections and based on one or more of user selection history, user preferences, content or application (See col. 5, lines 1-10, Wilson et al.).

Regarding claim 21, Wilson/Narasimhan/Gobburu discloses wherein the series of menus are predetermined (See col. 5, lines 42-60, Wilson et al.).

Regarding claim 22. Wilson/Narasimhan/Gobburu discloses wherein a plurality of the menus in the series of menus are dynamically determined in response to menu selections (See col. 3, line 4-5, Wilson et al.).

Response to Arguments

10. Applicant's arguments filed on 05/30/2006 about the claim rejection of the last Office Action have been fully considered, but they are not persuasive.

Applicant submits that "Gobburu may not be prior art depending upon the contents of Provisional Application No. 60/313,753 filed August 20, 2001, Provisional Application No.

60,252,101 which was filed on November 21, 2000 and Provisional No. 60,252,346 which was filed on November 20, 2000...Because these reference are not available on the USPTO public PAIR system the applicant cannot determine if Gobburu is prior art. The applicant respectfully requests that Provisional Application Nos. 60/313,753, 60,252,101 and 60,252,346 be made available to determined if Gobburu is prior art." The Examiner attaches herein with the Office action the Provisional Application No. 60,252,101 which it's content supports the Examiner rejection.

Applicant argues that Gobburu does not teach or suggest of "using the profile to product a menu of options for data input selection by a user. For these reasons, the applicant submits that Gobburu does not discloses or suggest the claim limitation of providing menu options for the user based upon the user's profile". The Examiner respectfully disagrees. The over all system of Gobburu teaches the user using a mobile communications device to access his home account to cause various top level folders (first menu list) of the My Transactions database to be displayed on the mobile phone (as shown in Fig. 4). The user can select any of the top level folders such as "Travel", thereby causing display of various subordinate folders (second menu list). The user now can choose any subordinate folders to be presented (See col. 12, line 62 to col. 13, line 18, Gobburu et al.). The user profile in Gobburu is used to generate queries to My Transactions database (See col. 22, lines 42-59, Gobburu et al.). Therefore, it's clearly that Gobburu teaches the limitation of providing menu options for the user based upon the user's profile.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the

teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See In re Fine, 837 F.2d 1071, 5 USPQZd 1596 (Fed. Cir. 1988) and In re Jones, 958 F.2d 347, 21 USPQZd 1941 (Fed. Cir. 1992). In this case, motivation to combine the references is found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. Wilson and Gobburu are analogous art because they both deal with using menus to access database.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Stibel U.S Patent No. 7,089,236 discloses search engine interface.

Kim U.S Patent No. 6,546,002 discloses system and method for implementing an intelligent and mobile menu-interface agent.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Merilyn P Nguyen whose telephone number is 571-272-4026.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for regular communications and 703-746-7240 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

MN
February 15, 2007

DON WONG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

10006930

JC803 U.S. PTO 11/21/00

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PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c).

INVENTOR(S)		
Given Name (first and middle [if any])	Family Name or Surname	Residence (City and either State or Foreign Country)
Venkata T.	Gobburu	San Jose, California
Krishnakumar	Narayanan	Cupertino, California
Nagesh	Challa	Saratoga, California
Michel F.	Gannage	Los Altos, California

☐ *Additional Inventors are being named on the ___ separately numbered sheets attached hereto*

TITLE OF THE INVENTION (280 characters max)

Method and apparatus for acquiring, maintaining and using information to be communicated in bar code form with a mobile communications device

Direct all correspondence to: **CORRESPONDENCE ADDRESS**

☒ Customer Number 000026458 →

OR *Type Customer Number here*

Place Customer Number Bar Code Label here

☐ Firm or Individual Name	David H. Carroll				
Address	PO Box 9004				
Address					
City	Avon	State	CO	ZIP	81620
Country	USA	Telephone	970-949-1346	Fax	970-949-1323

ENCLOSED APPLICATION PARTS (check all that apply)

☒ Specification *Number of Pages* 22

☒ Drawing(s) *Number of Sheets* 12

☐ Application Data Sheet. See 37 CFR 1.76

☐ CD(s), Number

☐ Other (specify)

METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT

☐ Applicant claims small entity status. See 37 CFR 1.27.

☐ A check or money order is enclosed to cover the filing fees

☐ The Commissioner is hereby authorized to charge filing fees or credit any overpayment to Deposit Account Number:

☐ Payment by credit card. Form PTO-2038 is attached.

FILING FEE AMOUNT ($)

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

☒ No.

☐ Yes, the name of the U.S. Government agency and the Government contract number are: _____

Respectfully submitted,

SIGNATURE _____

Date 11, 21, 00

TYPED or PRINTED NAME David H. Carroll

TELEPHONE (970) 949-1346

REGISTRATION NO. *(if appropriate)* 29,903

Docket Number: A1132US1V

USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT

This collection of information is required by 37 CFR 1.51. The information is used by the public to file (and by the PTO to process) a provisional application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 8 hours to complete, including gathering, preparing, and submitting the complete provisional application to the PTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, D.C. 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Box Provisional Application, Assistant Commissioner for Patents, Washington, D.C. 20231.

METHOD AND APPARATUS FOR ACQUIRING, MAINTAINING AND USING INFORMATION TO BE COMMUNICATED IN BAR CODE FORM WITH A MOBILE COMMUNICATIONS DEVICE

Venkata T. Gobburu
Krishnakumar Narayanan
Nagesh Challa
Michel E. Gannage

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention related to mobile communications devices, and more particularly to acquiring, maintaining, and communicating bar coded information using mobile communications devices.

Description of Related Art

The use of bar code scanners in a great many aspects of everyday life is commonplace. Bar code scanners are found in supermarkets, airports, stadiums, libraries, test centers, conference centers, and many other places. The use of bar code scanners has dramatically increased the speed at which many commonplace transactions can be completed.

While typically printed on paper stubs, bar codes may also be presented on the electronic displays of mobile communications devices. For example, in International Publication no. WO 00/03328 dated January 20, 2000, Motorola Inc. of Schaumburg, Illinois, describes the display of bar coded information on a selective call receiver ("SCR"). Demographic information concerning the user of the SCR is stored in the SCR. The demographic information is displayed on the SCR in bar code format such that it can be read by a bar code scanner, as in a store or at a point-of-sale. A stored coupon may also be displayed in bar code format so that it can be read and redeemed at the point-of-sale. A

stored affinity card code and a unique identifier may also be displayed in bar code format so that they can be read to identify a selected affinity group and the customer at the point-of-sale. As a further example, Impulsity Inc. of Dallas, Texas, has proposed using voice recognition technology to allow a cellular telephone user to identify himself or herself while obtaining wirelessly from an airline computer an electronic bar coded boarding pass at the airport using only a cellular telephone. As proposed, the electronic boarding pass may be displayed as a bar code at the time of boarding on the screen of the cellular telephone so that the gate attendant may scan the boarding pass in a conventional manner.

SUMMARY OF THE INVENTION

While presenting bar coded coupons and user affinity information on a cell phone display from data resident in the local memory of the cell phone is quite useful, the technique has several disadvantages. At the outset, the cell phone must be specially programmed to provide coupon storage and access. Older cell phones may lack the ability to be suitable programmed, and even newer cell phones may not be suitably programmed by the vendor. Even if suitably programmed, many low end cell phones lack a large memory, thereby severely restricting the amount of coupons and user information that may be stored. Moreover, to maintain coupons up to date requires synchronizing the coupon memory on the cell phone with an external data base, which requires periodic maintenance overhead.

Similarly, using a cellular telephone to obtain a bar coded electronic boarding pass obtained wirelessly from an airline computer for display during the boarding process has the notable disadvantage of requiring each airline to arrange a new, unproven and potential costly service, namely wireless voice secure access into its computer systems.

Accordingly, an object of the present invention is to utilize to a substantial degree existing and proven infrastructure for the convenient acquisition, maintenance and use of information to be communicated in bar code form with mobile communications devices.

These and other objects and advantages are realized in whole or in part in various embodiments of the present invention. One embodiment of the invention, a method of communicating information in bar code form with a mobile communications device, comprises accumulating diverse transactional information on a server, the transactional information including ticketing information and coupon information; selecting information from the diverse transactional information; displaying the selected information on the mobile communications device in bar code form; and presenting the mobile communications device having the selected information displayed thereon in accordance with the displaying step for scanning by a bar code scanner.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a schematic diagram showing a variety of different types of computer systems, internet service providers, and communications devices having access to a My Transactions database.

Figure 2 is a textual representation of various folders and their subfolders in the My Transactions database.

Figure 3 is a pictorial representation of an airline bar coded boarding pass.

Figures 4 through 8 are sequential pictorial representations of a WAP phone being used in the airline boarding process.

Figure 9 is a pictorial representation of a WAP phone being used to access a boarding pass after it has been issued.

Figure 10A and Figure 10B are flowcharts of an airline boarding process in which the identity of the boarding passenger is confirmed.

Figure 11 is a pictorial representation of soccer sports event ticket.

Figure 12 is a pictorial representation of a soccer sports event ticket on a WAP phone being used to gain entry to a stadium.

Figure 13 is a pictorial representation of a WAP phone being used to transfer theater tickets to another person after they have been purchased.

Figure 14 is a pictorial representation of a Web page used for ordering airline tickets.

Figure 15 is a flowchart showing a process whereby vendors obtain access to subfolders in the My Transactions database.

Figure 16 is a block schematic diagram showing a filtering and sorting process for coupons.

Figures 17 and 18 are block schematic diagrams showing different ways of updating information in the My Transactions database.

Figure 19 is a schematic representation of a data structure which includes attributes.

Figure 20 is a schematic diagram of a coupon processing scheme.

Figure 21 is a block schematic diagram of the internal architecture of an illustrative intelligent delivery engine suitable for use in the scheme of Figure 20.

Figure 22 is a pictorial representation of a mobile boarding pass on a WAP phone having the capability of being retired from the WAP phone.

Figure 23 is a pictorial representation of a soccer sports event mobile ticket on a WAP phone having the capability of being retired from the WAP phone.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Figure 1 is a schematic diagram showing a variety of vendor and governmental computer systems, internet service providers, and communications devices having access to a user's My Transactions database 10. Illustrative vendor and governmental computer systems include online travel store 20, airline 22, rental car company 24, hotel 26, restaurant 28, ticketing agency 30, sports event promoter 32, concert promoter 34, theater 36, manufacturer promotions firm 40, supermarket 42, department store 44, specialty shop 46, online store 48, the state division of motor vehicles 60, the National Park Service 62, the user's employer 64, and a library 66. Access is by any suitable direct or indirect manner, including the Internet, wide area networks, local area networks, and other wired and wireless solutions. The user has wireless access to her My Transactions database, either directly or through the Internet, through a wireless ISP 70 from any suitable mobile communications device.

Many different types of mobile communications devices are well known and commercially available today, and a myriad of new mobile communications devices are likely to be introduced. Examples of mobile communications devices include personal data assistants ("PDAs") operating under such operating systems as the Palm™ operating system and the Windows™ CE operating system, two-way pagers, some types of consumer wireless Internet access devices ("CADs") and Internet appliances, GSM phones and WAP-enabled phones available from various manufacturers such as Nokia of Helsinki, Finland, and Telefonaktiebolaget LM Ericsson of Stockholm, Sweden, personal communication system ("PCS") phones, multi-function wireless "smart" phones such as the iMODE phone available from NTT Docomo of Tokyo, Japan. Advancements in mobile phones include browser-enabled phones using such protocols as J2ME (Java 2 Micro Edition) and the Wireless Access Protocol ("WAP"). Other advances include wireless internet devices ("WID") which combine PDA functions, phone functions, and wireless browser functions in

a device having an open software architecture, a display that is relatively large and with relative good resolution, and stylus entry. In Figure 1, a few examples of the enormous diversity of mobile communications devices that are supported include a WAP phone 72, a SmartPad notepad 74 such as is available from Seiko Instruments of Torrance, California, and equipped with a wireless PDA device, a two way pager 76, and a communications-enabled personal data assistant 78. Many different kinds of communications-enabled PDAs are available. Examples include the Palm VII connected organizer, which is available from Palm Computing, Inc. of Santa Clara, California; the pdQ smartphone, which is available from QUALCOMM Incorporated of San Diego, California; and a variety of PDAs suitably equipped with attached wireless modems such as, for example, the Palm III and V connected organizers with Minstrel® Wireless Palmtop Modems from Novatel Wireless Inc. of San Diego, California, which are distributed by Omnisky Corp. of Palo Alto, California. Other examples include a number of devices based on the Windows™ CE operating system such as the various devices available from, for example, Compaq Computer of Houston, Texas, Hewlett Packard of Palo Alto, California, Casio Corporation of Tokyo, Japan; and the Revo organizer available from Psion PLC of London, England. Another illustrative platform is the Wireless Internet Device ("WID"), a type of device that includes the functionality of a phone as well as a PDA, WAP browser, and HTML browser. An example of a WID device is the communicator platform, which is being developed by Ericsson. Any suitable wireless technology may be used, including, for example, GSM, CDMA, TDMA, GRPS, and UMTS.

The My Transactions database and the Internet generally may also be accessed by the user through an ISP 80 from any suitable non-mobile devices, examples of which include a set top box 82 and a personal computer or workstation 84.

Although shown as a separate and distinct feature in Figure 1, the My Transactions database may be hosted on any Internet accessible server. Preferably, the My Transactions database is hosted by a portal such as Yahoo! or by the wireless ISP 70. Although a separate wireless ISP 70 and a separate ISP 80 are shown, the user may use a single ISP for both wireless and wired access, or may use multiple ISPs for either wireless access, wired access, or both wireless and wired access.

The My Transactions database 10 is a secure but easily accessible and manageable depository for information that relates to the user's transactions, and especially for information that may be represented and used in bar code form on a mobile communications device. Examples of various types of information that are suitable for inclusion in the My Transactions database are shown in Figure 2. In the illustrative example of Figure 2, the user has four folders in her My Transactions database: "Travel," "Recreation," "Shopping," and "Licenses, Passes and Cards."

Assume for the purposes of Figure 2 that the user has planned a business trip for which she has made airline, rental car, and hotel reservations. Accordingly, the "Travel" folder illustratively contains the following subfolders: airline ticket, airline boarding pass, rental car reservation receipt, and hotel reservation receipt. During the reservation process, the vendors may have issued discount and other promotional coupons, giving rise to the following additional subfolders: surface transport coupons, lodging coupons, and restaurant coupons. Assume also that the user has made arrangements to see a sports event when she returns and then go camping over the weekend. The user also has booked two seats at the opera, which she intends to give to her parents as a gift. Accordingly, the "Recreation" folder illustratively contains the following sub-folders: sports event ticket receipt, theater ticket receipt, and National Park Service pass. During the reservation process, the vendors may have issued discount and other promotional coupons, giving rise to the following additional subfolders: related event coupons, memorabilia coupons, and restaurant coupons. Assume also that the user routinely goes grocery shopping. Accordingly, the "Shopping" folder illustratively contains the following subfolders: affinity program ID, coupons by savings, coupons by category, coupons at the user's favorite stores, and competing store coupons. Assume also that the user routinely requires access to certain licenses, passes, and borrower cards. Accordingly, the "Licenses, Passes and Cards" folder contains the following subfolders: driver's license, workplace security pass, library card, and video rental card.

By using a mobile communications device to access the information in the My Transactions database and display bar coded documents, the user may entirely avoid carry

about paper receipts and paper discount and promotional coupons for the various planned trips and activities.

To begin the trip, the user requires a boarding pass. An example of a bar code style boarding pass 300 suitable for display on a mobile communications device is shown in Figure 3. The boarding pass 300 includes the name of the airline (element 302); a group of text (element 304) indicating the flight number, the seating assignment, the departure date and time, and the gate number; and the bar code itself (element 306).

An illustrative basic procedure by which the user may obtain a boarding pass for display on a mobile communications device such as a WAP-enabled phone when passenger identification is not required is shown in Figures 4 through Figure 8. The user wirelessly accesses his home account to cause the various folders of the My Transactions database to be displayed on the WAP phone, as shown in Figure 4. The user may navigate to select "Travel" or touch "1" on the keypad, thereby causing display of the sub-folders under "Travel" as shown in Figure 5. The user may navigate to select "Airline" or touch "1" on the keypad of the WAP phone, thereby causing various options to appear in menu form as shown in Figure 6. The user may navigate to select "Boarding Pass" or touch "2" on the keypad, thereby causing the security questions about luggage mandated by federal security rules to be presented as shown in Figure 7. If the user answers both questions appropriately, a boarding pass is issued and placed into the user's "My Transactions" database, and a bar code is displayed on the users mobile communications device as shown in Figure 8 for a WAP phone.

The foregoing procedure assumes that the ticketed segments will be used sequentially. If desired, the wireless ISP 70 may automatically report the location of the WAP phone so that the airline computer is able to determine the user's location and issue the appropriate boarding pass automatically, even if a flight segment is skipped. Alternatively, the user may be presented with a menu for selecting any unused ticketed segment against which the boarding pass is issued.

In the event that the user wishes to use the mobile phone for another purpose before presenting a displayed bar coded mobile boarding pass for scan, the boarding pass display is lost on most types of mobile communications devices. However, the mobile boarding pass remains available in the My Transactions database until the gate agent redeems the boarding pass when the user boards the aircraft, and may be redisplayed by the user anytime prior to boarding simply by wirelessly accessing the My Transactions database and navigating through the subfolders of Figures 4 and 9. The subfolders of Figure 9 are similar to the subfolders of Figure 5 except that a new subfolder "Boarding Pass" has been created since the airline ticket has been redeemed for a flight segment. The "Airline" subfolder remains for such purposes as checking itinerary, changing any remaining flight segments, and issuing boarding passes for any remaining flight segments.

It will be appreciated that shortcut keys may be programmed to access directly any information in any of the subfolders of the My Transactions database.

Passenger identification may be added to the boarding pass issue procedure in any suitable manner. For example, the airline may provide a special ticket agent who is dedicated to confirming the user's identity by, for example, inspecting a picture identification such as a physical driver's license or an electronic bar coded driver's license stored in the user's Official Documents subfolder in the My Transactions database, as well as confirming correct answers to the security questions, thereby providing a fast and efficient boarding process for passengers using their mobile communications devices to access and display boarding passes.

Figure 10A shows an example of a process involving a special ticket agent's interaction with the user. The user displays the purchased ticket in the manner previously described (block 1002). The ticket displayed on the WAP phone preferably includes a bar code identifying the ticket, the travel segment, and the passenger. After checking the user's identification and obtaining satisfactory answers to the baggage security questions (block 1004), the special ticket agent scans the ticket displayed on the WAP phone using a bar code scanner (block 1006). The boarding pass is either automatically displayed or the user may

select the boarding pass for display on the WAP phone (block 1008). The gate agent then scans the boarding pass (block 1010) and permits the user to board the aircraft (block 1012) since the boarding pass is valid.

Other techniques for confirming the passenger's identity may also be used, including, for example, the technique proposed by Impulsity Inc. and referred to previously.

Preferably, the updating - including retirement - of tickets, boarding passes, and other bar coded documents displayed on mobile communications devices is handled by the computers of the business or governmental entity responsible for issuing the documents, or by their surrogates. In this way, measures can be taken by the issuing entities or their surrogates to ensure that the mobile documents retained in the user's My Transactions database are appropriately updated in a timely manner, including retirement of the documents as appropriate, so that the mobile documents stored in the user's My Transactions database cannot be misused. In addition, the person performing the bar code scan is relieved of the need to take any additional and perhaps time consuming actions to retire the displayed bar coded mobile document on the mobile communications device. Such actions could involve handling of the user's mobile communications device by the person performing the bar code scan, which would be undesirable. Moreover, the person performing the bar code scan might neglect to perform such actions or perform them improperly, thereby resulting in even greater potential for misuse.

Figure 10B shows an example of the interaction of the airline computer with the special ticket agent process of Figure 10A. The special ticket agent's scanner sends an authorization notice to the airline computer when the bar coded mobile ticket displayed on the user's mobile communications device is scanned. When the authorization notice is detected (block 1020 - yes), the ticket is retired for the appropriate flight segment (block 1022), a boarding pass for the flight segment is issued (block 1024), and the My Transactions database is updated (block 1026) to indicated that the ticket segment for which the boarding pass has been issued is retired and to create an mobile boarding pass bar coded document. The airline computer then awaits another notification (block 1020 - no). Since the

ticket segment for which the boarding pass has been issued is no longer valid and the ticket stored in the My Transactions database reflects this, the ticket may not be used again to issue another boarding pass for the same segment.

The special ticket agent's scanner also sends an authorization notice to the airline computer when the bar coded mobile boarding pass displayed on the user's mobile communications device is scanned. When the authorization notice is detected (block 1030 - yes), the boarding pass is retired (block 1032) and the My Transactions database is updated (block 1034) to indicated that the boarding pass has been retired due to use. The boarding pass cannot be redisplayed on the user's mobile communications device as indicated by the "X" at the end of the dashed line extending from the update block 1034, thereby preventing misuse. The airline computer then awaits another notification (block 1030 - no).

The scanning of the boarding pass by the gate agent may trigger other actions, such as, for example, the crediting of frequent flyer miles to the user's frequent flyer mileage account. This would be handled by the airline computer.

Once the user has a properly issued boarding pass, the user may use the boarding pass for other authorized purposes. For example, an airline may set up a self-service agent-monitored luggage check counter whereby the user presents the boarding pass bar code to a check counter scanner and indicates the number of bags to be checked. The check counter equipment prints adhesive luggage tags which the user applies to his or her bags, and deposits an mobile checked baggage receipt into the user's My Transactions database. The checked baggage receipts are displayed and retrieved generally using the techniques described previously.

A sports event pre-purchased ticket is used in the following exemplary manner. Upon reaching the stadium, the user wirelessly accesses her My Transactions database and causes a sports event mobile ticket to be displayed as a bar code. An example of a bar code style sports event mobile ticket 1100 suitable for display on a mobile communications

device is shown in Figure 11. The sports event mobile ticket 1100 includes the name of the event (element 1102); a group of text (element 1104) indicating the stadium, date, and seat location; and the bar code itself (element 1106).

Figure 12 shows the bar coded sports event mobile ticket being displayed on, for example, a WAP phone. Upon entering the stadium, the user wirelessly accesses the My Transactions database, causes the bar coded sports event ticket to be displayed, and presents his or her WAP phone to the gate agent. The gate agent scans the bar code, and the event promoter's computer then updates the user's My Transactions database to indicate that the ticket has been used (i.e. retires the ticket) and replaces the ticket with a bar coded ticket stub to allow the user to reenter the stadium if she temporarily leaves the stadium during the event. The ticket stub may simply time out and delete itself after a time, or the promoter's computer may access and delete the stub at the end of the event, or the ticket stub may persist until manual deletion by the user.

Being an avid camper, the user has purchased a National Park annual pass which entitles the user to an unlimited number of visits over a specific period of time. The annual pass is used in the following manner. Upon approaching the park, the user wirelessly accesses his My Transactions database, causes the bar coded park pass to be displayed, and presents his WAP phone to the entry station ranger. If the ranger has no bar code scanner, she would still be able to visually confirm whether the park pass appears to be valid since the expiration date preferably is displayed along with the bar code. However, scanning the bar coded mobile park pass is preferred because the NPS computer is able to check validity of the mobile park pass by using the scanned information to consult its own records. The NPS computer has no need to update the user's My Transactions database based on the user's visit, although it may keep track of certain statistical information for later reporting to government officials on park visitation. However, upon the date of termination, the NPS computer should access the user's My Transactions database and invalidate the park pass if it has terminated, or extend it if another annual term has been purchased. Alternatively, the pass stored in the My Transactions database may simply time out and delete itself at the expiration of the annual term.

The user has also purchased a pair of theater tickets which the user intends to give as a gift. The user wirelessly accesses the My Transactions database and navigates to the Theater subfolder, which displays a number of options as shown in Figure 13. The options are to display the tickets, to modify the tickets, to cancel them, or to transfer them. It is instructive to compare Figure 13 with Figure 6, which does not include a "Transfer" option. This is because the airline ticket to which Figure 6 pertains is not transferable.

The tickets are transferred in any suitable manner. For instance, the user may log onto the vendor's Web site and perform the transfer. However, the tickets may be particularly easily transferred using instant messaging when the parents appear as a buddy. An instant message is prepared informing the parents of the gift, and the ticket data from the My Transactions database is treated as an attachment to the instant message. Various attributes associated with the ticket are checked to ensure that the user has the authority to make the transfer, and a record of the transfer is maintained, *see* Figure 19. The user's My Transactions database is also provided with a record of the transfer so that the ticket agency computer is able to locate the mobile tickets when it requires access to them for updating and other purposes. Alternatively, the software managing the My Transactions database generates a notification to the ticket agency computer informing it of the transfer, whereby the ticket agency computer may update its database. Well known public Internet portals offering instant messaging include America Online, Microsoft Network, and Yahoo!

As is apparent from the foregoing, tickets (as well as coupons and other such bar coded documents) are retired in several different ways, depending on the type of ticket. If the ticket is a single use ticket, preferably the ticket is retired both on the mobile communications device as well as in the users My Transactions database by the vendor. If the ticket is a multiple use ticket, the ticket should be retired on the mobile communications device after each use but is not retired from the user's My Transactions database until the last use. If the ticket has a limited duration, the ticket should be retired on the mobile communications device after each use but is not retired from the user's My Transactions database until the date of termination.

Tickets may be purchased in any manner convenient to the user, ranging from purchase at "brick and mortar" establishments such as an airline ticket office, a stadium ticket office, and so forth, online purchases using the Internet, or automated purchases from a cell phone. An example of an online airline ticket purchase using a standard browser running on a personal computer is shown in Figure 14. After completing the passenger profile, including credit card information, and purchasing the ticket, the page shown in Figure 14 allows the passenger to obtain the mobile ticket via her WAP phone by entering her instant messaging handle and her password.

Figure 15 shows the process carried out by the server that hosts the user's My Transactions database when an airline ticket is purchased. Other ticket purchases are similar. A request is received by the server that hosts the user's My Transactions database from the vendor's server to create and access a subfolder in the user's My Transactions database, based on the instant message user name "imHandle" provided by the user (block 1502). The user supplied password, which is maintained secure, is checked to determine if the user in fact authorized the transaction. If the password check fails (block 1504 - no), the vendor is denied access (block 1506). If the password check is successful (block 1504 - yes), a subfolder is established under the appropriate folder for the type of vendor and with access restrictions appropriate for the type of vendor (block 1508). The vendor is assigned a name and password (block 1510) which the vendor may use for access (block 1512 - yes, block 1514). In the case of an airline ticket, the airline server may access the subfolder for such operations as retiring ticket segments, modifying the ticket, canceling the ticket, depositing boarding passes, retiring boarding passes, and depositing baggage receipts.

The user also has access to a bar coded workplace security pass through his mobile communications device. To prevent unauthorized access, the workplace security pass folder preferably is password protected. Upon approaching the workplace, the user wirelessly accesses the My Transactions database, causes the bar coded workplace security pass to be displayed, and presents his WAP phone to a scanner located at the entrance to the workplace. The scan is automatically completed and the door is unlocked if the bar coded pass is valid. The bar code is changed frequently so that employees whose authorizations are

revoked are unable to obtain the new bar code and are unable to gain access using the old bar code. The old bar code is overwritten by the new bar code in the My Transactions database of every current and authorized employee so that they may obtain the new bar code and access as desired.

The user also has access to a bar coded driver's license. To prevent unauthorized access, the driver's license folder preferably is password protected. The bar coded driver's license also includes a picture for identification purposes, so that it is preferably suitable for larger high resolution screens. By scanning the bar code, a complete and accurate record of the driver's license information is rapidly and easily made, which is useful in retail transactions as well as traffic enforcement.

The user also has access to a variety of coupons and promotional material. Figure 2 shows one illustrative way of organizing coupons, although a variety of different ways are possible. The user's coupons are stored in one or more subfolders in the user's My Transactions database. The user navigates to the appropriate subfolder and cycles through the stored coupons until he finds one of interest, or may instead perform a keyword search from the mobile communications device keypad or other input device for a coupon of interest. Once the coupon of interest is found, the user selects it using any suitable input device. If a single use coupon, the selected coupon is moved to the checkout subfolder; otherwise a copy is placed in the checkout subfolder. Placing coupons in the checkout subfolder allows the coupons to be easily and conveniently displayed during checkout.

Many different techniques may be used to decide on the various categories of subfolders and to place coupons therein. For example, Figure 16 illustrates one technique in which the user registers with various product vendors, illustratively manufacturers 1602 and 1604 and stores 1606 and 1608. Registration, which preferably is done online, involves soliciting answers to a number of questions about the user's preferences, using techniques well known in the art. The answers are then submitted along with the users imHandle and password to the manufacturer, store, or other commercial concern. As in the case of the airlines, the manufacturers and vendors use the user's imHandle and password to register

with the user's My Transactions database. If desired, the user may permit the vendors to create and access particular subfolders, as in the case of airlines, but coupons are better handled by providing a degree of filtering. Hence, access preferably is limited to write access and retire access by access control 1610 to a filter 1620. The retire access is used by clearinghouse computers to retire single use coupons promptly as they are scanned at the point of sale. The filter 1620 receives filter criteria from a number of sources, illustrative from custom user criteria 1622, from the user's purchase habits 1624 which can be tracked from, for example, credit card records or from arrangements with stores (*see* US Patent No. 5,832,457, issued November 3, 1998 to O'Brien et al. and incorporated herein in its entirety by reference thereto), and from interests expressed by similarly situated shoppers 1626, which is available from various marketing organizations. The coupons that pass through the filter are sorted into categories which the user has determined are useful, illustratively by product category 1632, by amount of savings 1634, by coupons available for use at the user's favorite stores 1636, and by coupons available at stores which compete with those commonly shopped by the user 1638. Additionally, the user may manually enter coupons seen in newspapers, circulars, and so forth by wirelessly accessing her My Transactions database using her mobile communications device, navigating to the My Coupons subfolder (block 1642), and entering the UPC number of the bar code (block 1640). The user may then review her coupons at leisure, and any coupons marked for use are copied or moved - depending on whether use is restricted - into the checkout folder (block 1650).

In order to obtain the user's purchase history, the user must identify himself at the point of sale. A well known technique for accomplishing this is by becoming a member of an affinity group. Upon arriving at a checkout counter, the user wirelessly accesses her My Transactions database, causes the bar coded affinity program ID to be displayed, and presents her WAP phone to the store clerk who scans the bar code. During the check out process, the user or the store clerk cycles through the bar coded coupons in her Checkout subfolder (the cycling may be performed automatically by the mobile communications device at the maximum refresh rate of the scanner if desired) while the store clerk scans them.

The server that hosts the user's My Transactions database may use information about the location of the user's mobile communications device, which is provided by the wireless carriers and available from the wireless ISP, to identify which store the user has entered. The server then calls the user, and automatically displays the coupons from the subfolder for that store. Alternatively, the user wirelessly accesses his My Transactions database which now contains a "Current" subfolder in the Shopping folder. The contents of the "Current" subfolder are automatically displayed to the user. The user may select any of the coupons displayed in any manner for the Checkout subfolder.

When arrangements are made to travel to a particular location or to attend an event in a particular location, the user may if desired authorize the vendors he is dealing with to deposit coupon and other promotional information which pertains to the location. For example, as shown in Figure 2, coupons for surface transport, lodging, and restaurant discounts are of interest while traveling, and coupons for like events, memorabilia, and restaurant discounts are of interest while attending a particular event. Coupons in these subfolders may be selected and placed in a Checkout subfolder for use. Filtering techniques may be applied if desired.

Hotels and car rental companies can use bar coded reservation receipts in many ways. For example, scanners could be installed in airports in place of phones to scan a reservation receipt and automatically dispatch hotel and rental car pickup vans as well as direct the preparation of check-in documents and keys.

A variety of techniques may be used to permit the user to modify certain items stored in the user's My Transactions database. Two illustrative techniques are shown in Figures 17 and 18. In Figure 17, the user 1702 performs the modifications on the vendor's server 1704, and the vendor updates the My Transactions database on the user's server 1706 to reflect the changes. In Figure 18, the user 1802 performs the modifications to the My Transactions database on the user's server 1806, and the user's server 1806 then synchronizes with the vendor's server 1804.

Each file containing bar code data also contains a number of attributes which are useful for data security, display and maintenance. For instance, the file shown in Figure 19 is a ticket file that contains in addition to the usual standard data for the bar coded ticket, the ticket issue date, the ticket expiration date, the number of permitted uses, whether the ticket can be cancelled by the vendor and under what terms, whether the ticket can be transferred by the user and under what terms, and a transfer history. One use for these attributes is the periodic maintenance of data on the My Transactions database. For instance, periodically the user's server may check the ExpirationDate and NumberUsesRemaining attributes to determine whether to delete the ticket from the My Transactions database. The user can determine on her mobile communications device whether she can cancel the ticket for a refund or whether she can transfer the ticket by querying the CancellationTerms and TransferTerms attributes.

Figure 20 shows a illustrative coupon processing scheme. Initially, a manufacturer 2006 and/or a store 2010 issues coupons which are placed into a My Transaction database 2002 by a delivery engine 2004. The user accesses her My Transactions database from her mobile communications device 2008 using the engine 2004. When a coupon from the My Transactions database 2002 is displayed by the user on her mobile communications device 2008, the store 2010 processes the bar code scan and sends information about the scanned coupon (e.g. dollar amount, manufacturer name) and the store ID to the engine 2004. The engine 2004 in turn sends the coupon usage data to a clearinghouse 2012. The clearinghouse 2012 sends money to the store 2010 in any suitable way (physical or electronic) and sends a report to the manufacturer 2006 in any suitable way (physical or electronic).

Figure 21 shows the internal architecture of an illustrative intelligent delivery engine suitable for use in the scheme of Figure 20, as well as for ticket processing. A service layer 2110 includes a presence availability management layer 2112, an interface to location based services area 2114, and an authentication and security layer 2116. The presence availability management layer 2112 determines how the user is logged in, e.g. through a formal user ID and password login or by having a mobile communications device that is ON and associated with the user. The interface to location based services area 2114 provides an interface to

external programs or modules which provide location information about the user. The programs and modules are typically operated by wireless carriers. Users gain access to the services provided by the service layer 2110 through the authentication and security layer 2116, which also functions to block unauthorized access.

The intelligent delivery engine 2100 also provides standard instant messaging functions with a pal/buddy management and filtering layer 2124 and a group/list management and filtering layer 2126. Communications between the user's mobile communications device via a wireless ISP (not shown in Figure 20) and the intelligent delivery engine 2100 are handled by a protocol manager 2118, a message object sequencer 2120, a compression function 2122, and a formatting and transcoding layer/API 2128. An interface to handwriting recognition module 2130 provides the ability to access external handwriting recognition software for processing handwriting that is digitally captured on such devices as the SmartPad notepad (element 74 in Figure 1). The My Transactions database is handled by an administration/reporting management layer 2132, a utility layer 2134, and a database manager 2136. The administration/reporting management layer 2132 generates various reports, including reports for the wireless carriers. The utility layer 2134 performs various high level database functions, such as data filtering described previously. The database manager 2136 provides various low level standard database functions.

Mobile advertising and coupons application 2140 performs a number of functions useful in ticketing and coupon transactions. Report and analysis tools 2144 generates various reports for stores, clearinghouses, manufacturers, and the user. Administration and advertisement pricing module 2142 and a coupon redemption and validation module 2146 provide standard functions relating to reporting coupon usage data to clearinghouses. A profile and schedule matching function 2148 generates queries to the My Transactions database based on user profile and user schedule information. The inventory and campaign management function 2150 generates various queries to external databases. For example, the user may request coupons for a desired product, or such requests may be generated automatically from time to time so that coupons may be obtained from vendors which have

not registered with and which therefor do not push coupon information to the user's My Transactions database.

In the foregoing description, misuse of documents stored in the user's My Transactions database is minimized by having the issuing entities or their surrogates update their respective mobile documents stored in the user's My Transactions database, including retirement of the documents as appropriate, at the time of the scan so that the mobile documents stored in the user's My Transactions database cannot be misused. However, a misuse issue is also associated with the mobile communications device insofar as the device is able to continue to display the bar coded mobile document, either following a dropped connection or by design. For example, a mobile communications device can be designed to maintain an existing displayed image in the event that the user activates certain functions not requiring full screen usage or terminates the wireless connection. Moreover, a mobile communications device may be designed to store the bar coded document locally for later retrieval and display, which is particularly useful if a wireless connection is not available later. If the bar coded mobile document is a limited use document, provision should be made to retire the document after each use so that it must be restored from the updated mobile document in the user's My Transactions database. One technique is to ensure that the mobile communications device cannot continue to display the mobile document unless it is connected to the My Transactions database. Another technique is for a "retire" button to appear on the display along with the bar coded document so that the agent scanning the bar coded can touch the button and retire the bar coded document from the mobile communications device. A suitable display for the airline mobile boarding pass is shown in Figure 22, wherein the term "Board" appears over the left display-adjacent button which the gate agent presses after scanning the bar coded mobile boarding pass to allow the user to board the aircraft. A suitable display for the sports event mobile ticket is shown in Figure 23, wherein the term "Enter" appears over the left display-adjacent button which the gate agent presses after scanning the bar coded mobile sports event ticket to allow the user to enter the stadium.

Some issuers of bar coded mobile documents may not wish to manage the updating of the mobile documents in the user's My Transactions database, but may instead wish the server managing the user's My Transactions database to also manage the updating and retiring of the mobile documents. In these instances, the bar coded mobile document should be displayed with a retire button such as those shown in Figures 22 and 23. The server managing the user's My Transactions database detects activation of the retire button and performs an appropriate update of the user's My Transactions database. If the issuer of the updated document desires that its own database be updated based on changes to the user's My Transactions database, the server managing the My Transactions database may synchronize the issuer's database in the manner shown in Figure 18.

The scope of our invention is set forth in the following claims. The description of the various embodiments set forth herein is illustrative of our invention and is not intended to limit the scope thereof, as variations/modifications are possible. Alternatives and equivalents of the various elements of the embodiments may be apparent from this description. These and other variations and modifications of the embodiments disclosed herein may be made without departing from the scope and spirit of the invention as set forth in the claims.

WHAT IS CLAIMED IS:

1. A method of communicating information in bar code form with a mobile communications device, comprising:

accumulating diverse transactional information on a server, the transactional information including ticketing information and coupon information;

selecting information from the diverse transactional information;

displaying the selected information on the mobile communications device in bar code form; and

presenting the mobile communications device having the selected information displayed thereon in accordance with the displaying step for scanning by a bar code scanner.

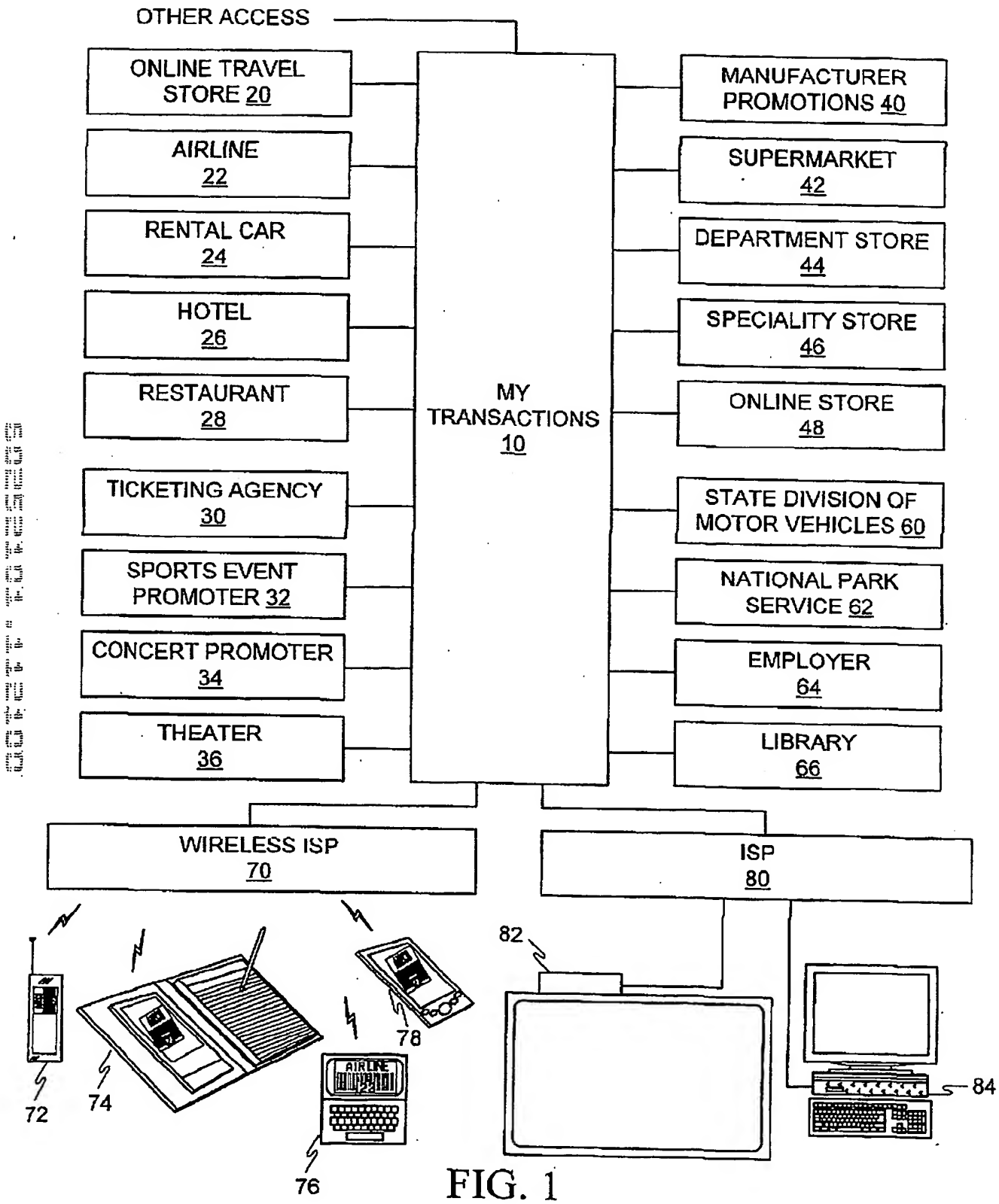
OTHER ACCESS
ONLINE TRAVEL STORE 20
AIRLINE 22
RENTAL CAR 24
HOTEL 26
RESTAURANT 28
TICKETING AGENCY 30
SPORTS EVENT PROMOTER 32
CONCERT PROMOTER 34
THEATER 36
MY TRANSACTIONS 10
MANUFACTURER PROMOTIONS 40
SUPERMARKET 42
DEPARTMENT STORE 44
SPECIALITY STORE 46
ONLINE STORE 48
STATE DIVISION OF MOTOR VEHICLES 60
NATIONAL PARK SERVICE 62
EMPLOYER 64
LIBRARY 66
WIRELESS ISP 70
ISP 80
72
74
76
78
82
84
AIRLINE

FIG. 1

TRAVEL
Airline ticket receipt Airline boarding pass Rent car reservation receipt Hotel reservation receipt Surface transport coupons Lodging coupons Restaurant coupons Checkout

RECREATION
Sports event ticket receipt Theater ticket receipt National Park Service pass Related event coupons Memorabilia coupons Restaurant coupons Checkout

SHOPPING
Affinity program ID Coupons by value Coupons by category Favorite store coupons Competing store coupons Checkout

LICENSES PASSES CARDS
Driver's license Workplace security pass Library card Video rental card

FIG. 2

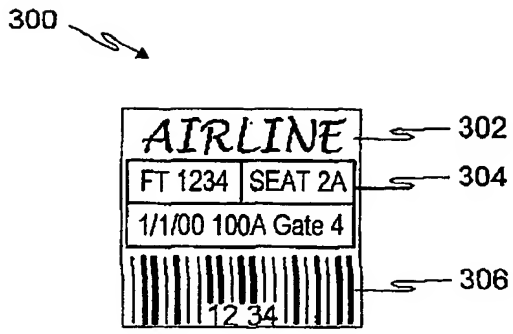

FIG. 3

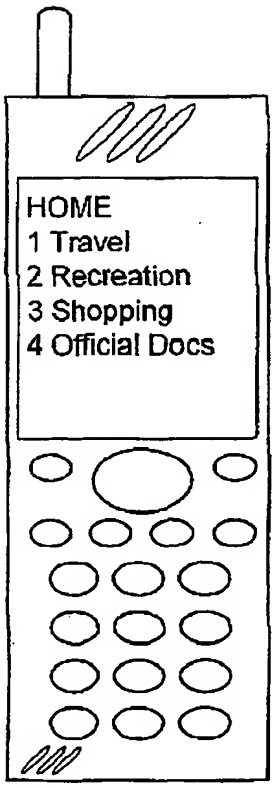

FIG. 4

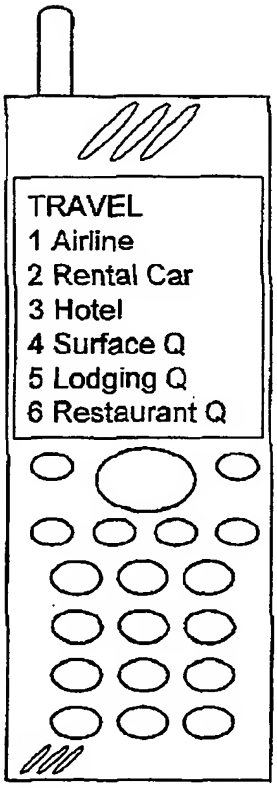

FIG. 5

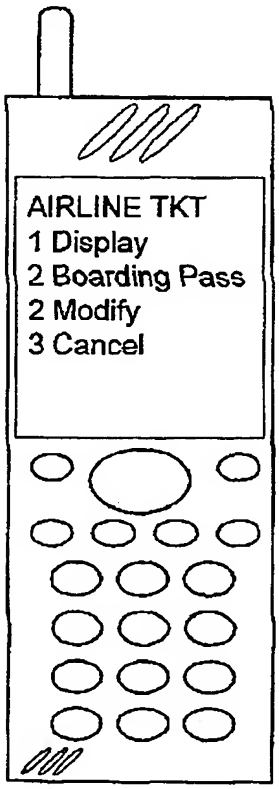

FIG. 6

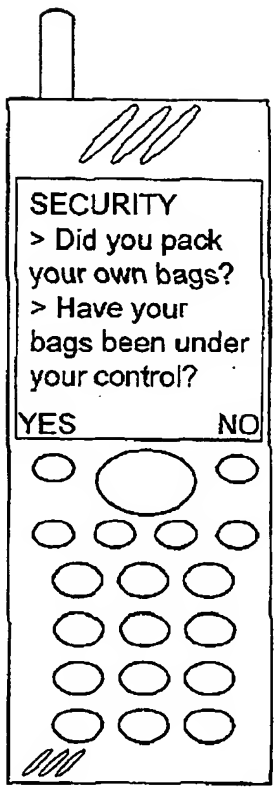

FIG. 7

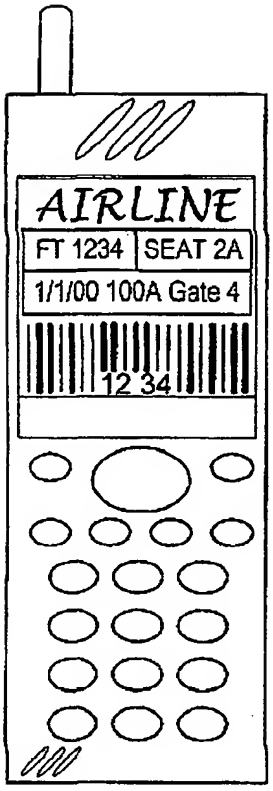

FIG. 8

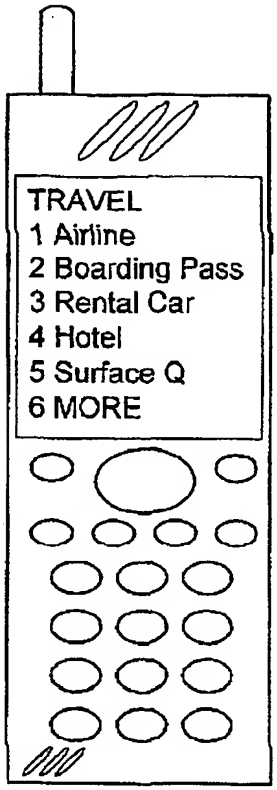

FIG. 9

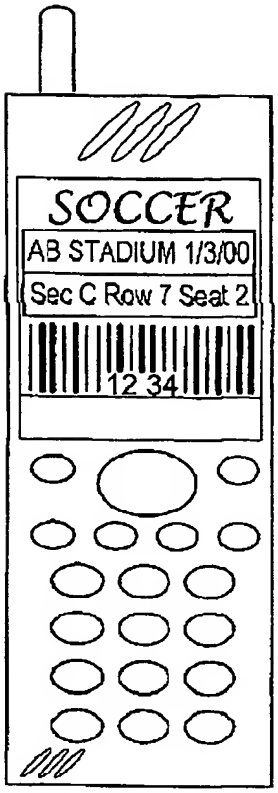

FIG. 12

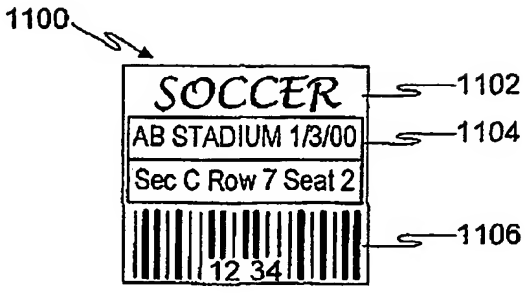

FIG. 11

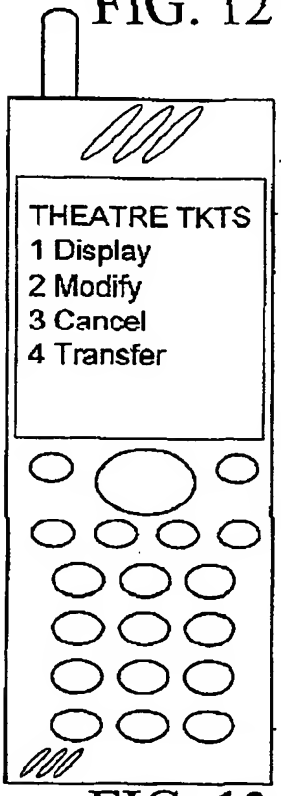

FIG. 13

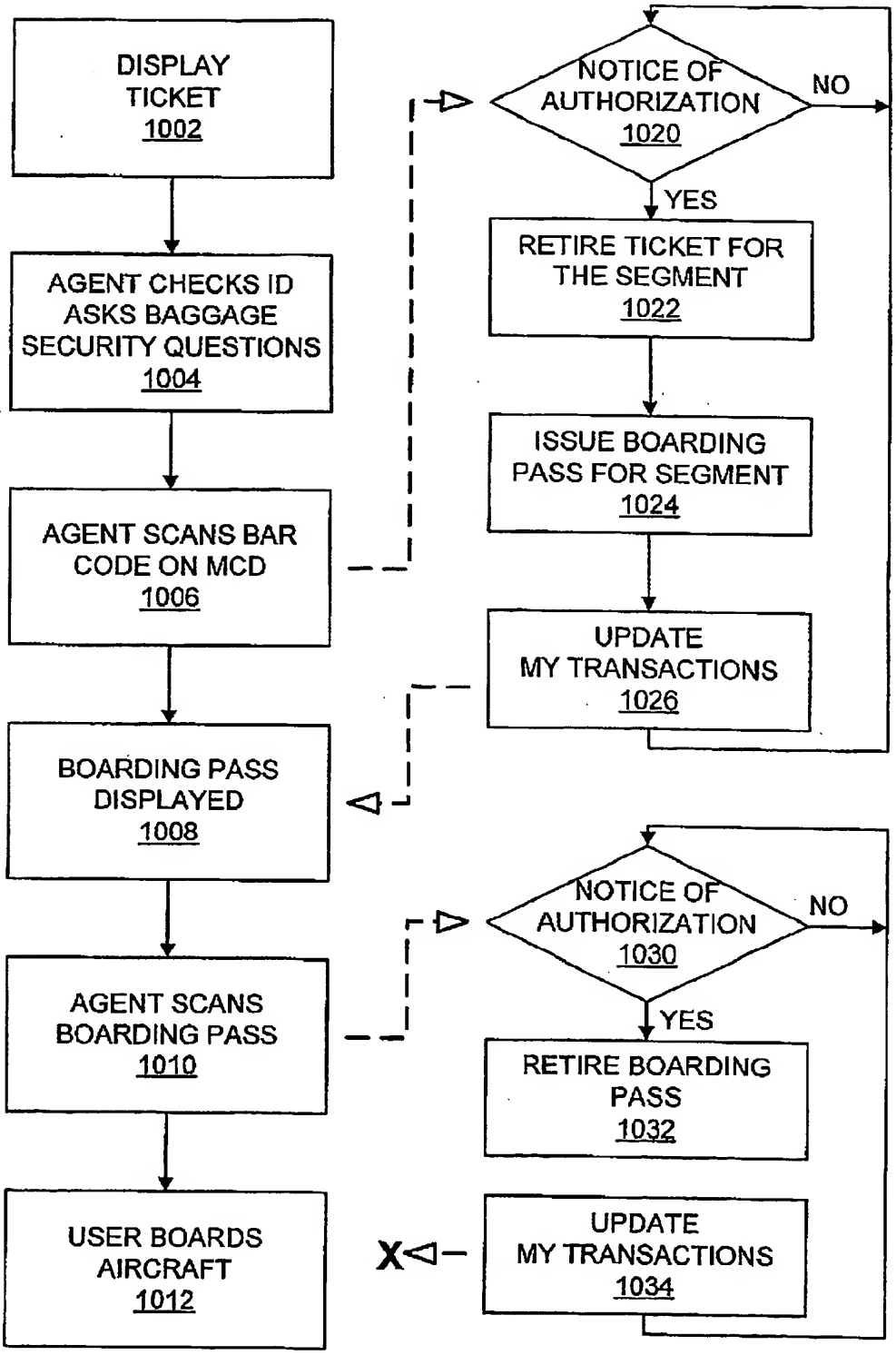

FIG. 10A

FIG. 10B

AIRLINE | MOBILE TICKET

MOBILE TICKET

Thank you for purchasing your Airline Mobile Ticket. Please review the information below and make sure that it is correct. If you have any questions or comments please cotact Customer Service

Departing from Rome (FCO):

Flight #	A123
Date:	28/11/2000
Time:	9:00 AM

Arriving at Milano (LIN):

Flight #	A123
Date:	28/11/2000
Time:	10:38 AM

To obtain your Mobile Ticket via WAP, please enter your imHandle and password

imHandle	
Password	

SUBMIT

FIG. 14

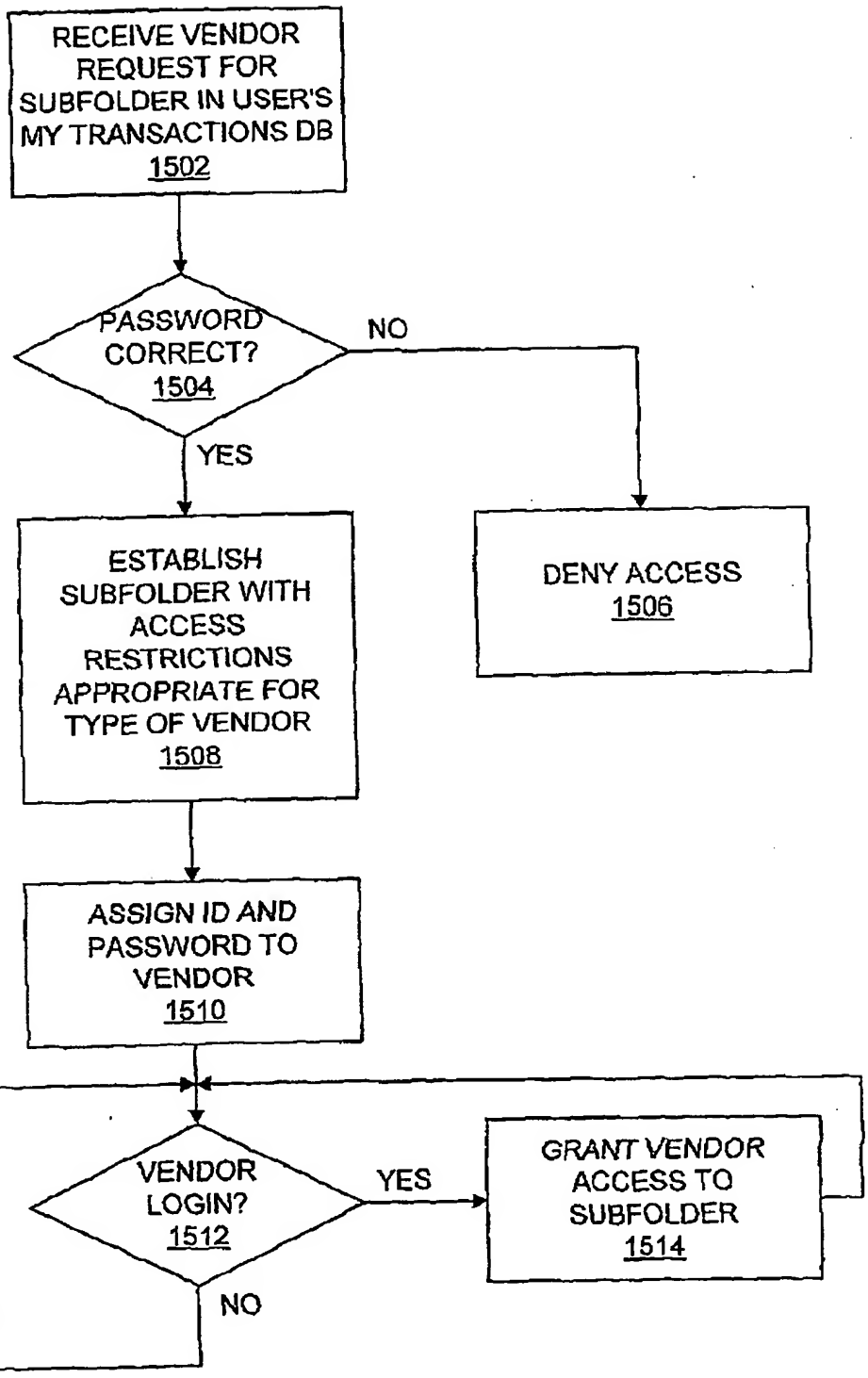
RECEIVE VENDOR REQUEST FOR SUBFOLDER IN USER'S MY TRANSACTIONS DB
1502
PASSWORD CORRECT?
1504
NO
YES
DENY ACCESS
1506
ESTABLISH SUBFOLDER WITH ACCESS RESTRICTIONS APPROPRIATE FOR TYPE OF VENDOR
1508
ASSIGN ID AND PASSWORD TO VENDOR
1510
VENDOR LOGIN?
1512
YES
GRANT VENDOR ACCESS TO SUBFOLDER
1514
NO

FIG. 15

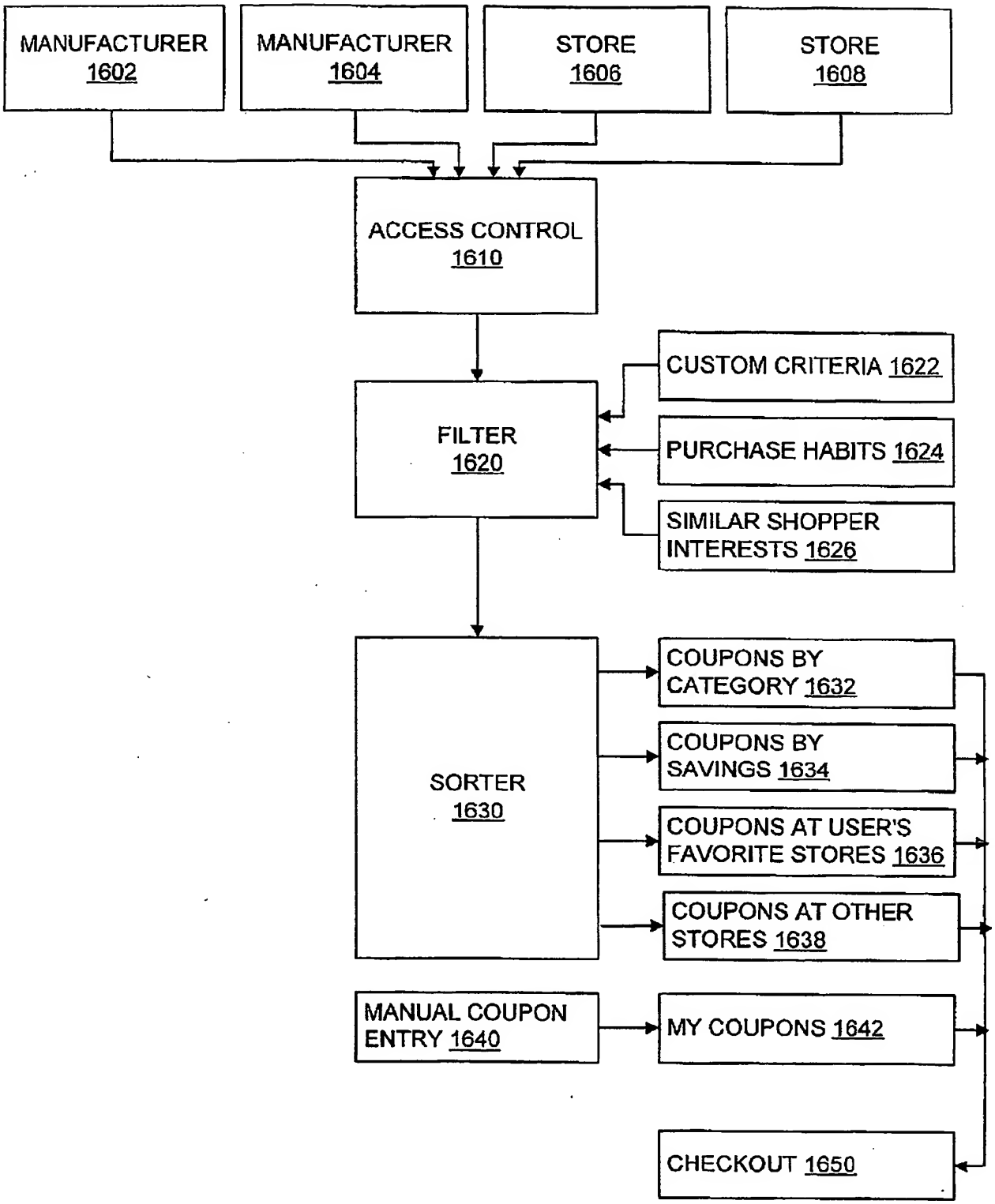
MANUFACTURER 1602
MANUFACTURER 1604
STORE 1606
STORE 1608
ACCESS CONTROL 1610
FILTER 1620
CUSTOM CRITERIA 1622
PURCHASE HABITS 1624
SIMILAR SHOPPER INTERESTS 1626
SORTER 1630
COUPONS BY CATEGORY 1632
COUPONS BY SAVINGS 1634
COUPONS AT USER'S FAVORITE STORES 1636
COUPONS AT OTHER STORES 1638
MANUAL COUPON ENTRY 1640
MY COUPONS 1642
CHECKOUT 1650

FIG. 16

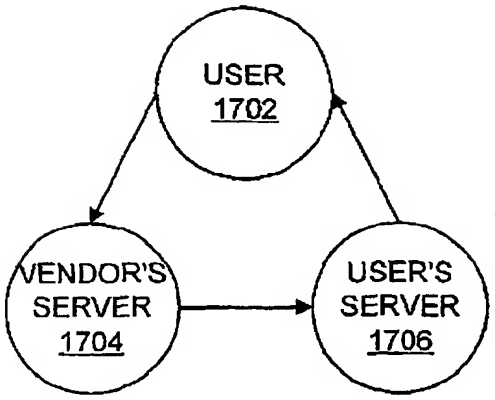

FIG. 17

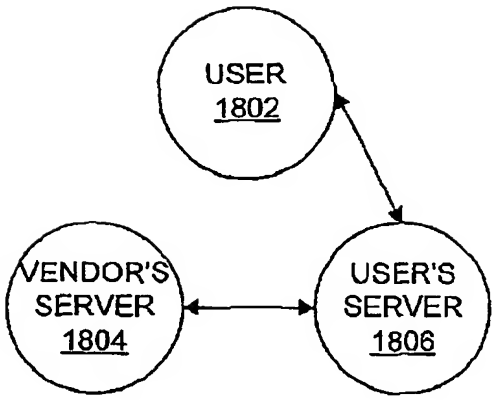

FIG. 18

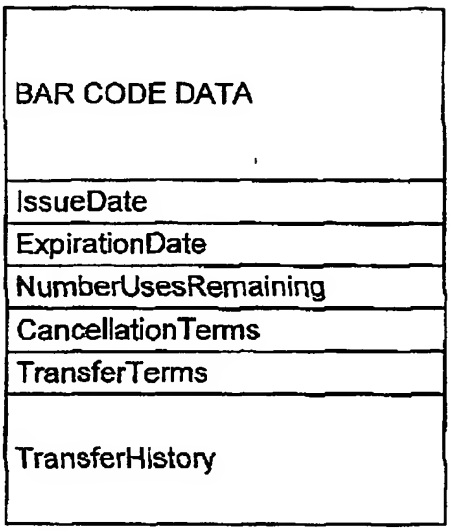

FIG. 19

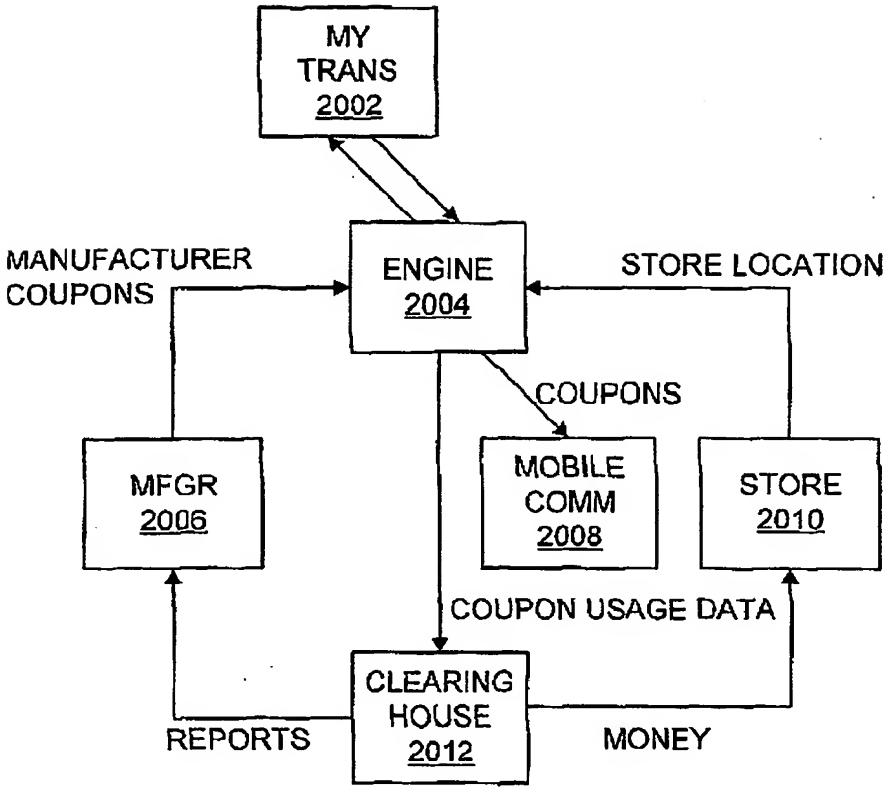
MY
TRANS
2002
ENGINE
2004
MANUFACTURER
COUPONS
STORE LOCATION
COUPONS
MFGR
2006
MOBILE
COMM
2008
STORE
2010
COUPON USAGE DATA
CLEARING
HOUSE
2012
REPORTS
MONEY

FIG. 20

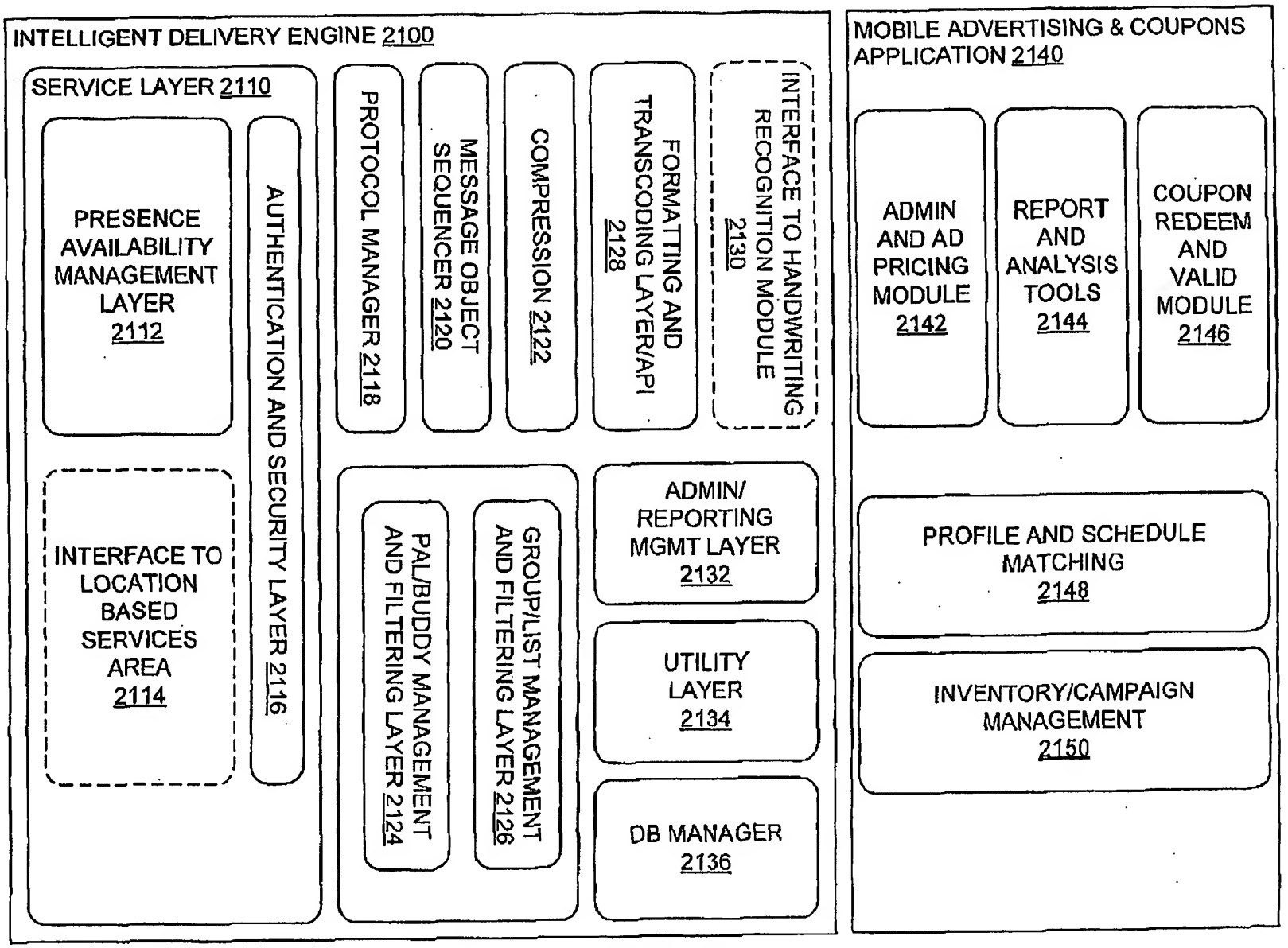
INTELLIGENT DELIVERY ENGINE 2100
SERVICE LAYER 2110
PRESENCE AVAILABILITY MANAGEMENT LAYER 2112
AUTHENTICATION AND SECURITY LAYER 2116
INTERFACE TO LOCATION BASED SERVICES AREA 2114
PROTOCOL MANAGER 2118
MESSAGE OBJECT SEQUENCER 2120
COMPRESSION 2122
FORMATTING AND TRANSCODING LAYER/API 2128
INTERFACE TO HANDWRITING RECOGNITION MODULE 2130
GROUP/LIST MANAGEMENT AND FILTERING LAYER 2126
PAL/BUDDY MANAGEMENT AND FILTERING LAYER 2124
ADMIN/ REPORTING MGMT LAYER 2132
UTILITY LAYER 2134
DB MANAGER 2136
MOBILE ADVERTISING & COUPONS APPLICATION 2140
ADMIN AND AD PRICING MODULE 2142
REPORT AND ANALYSIS TOOLS 2144
COUPON REDEEM AND VALID MODULE 2146
PROFILE AND SCHEDULE MATCHING 2148
INVENTORY/CAMPAIGN MANAGEMENT 2150

FIG. 21

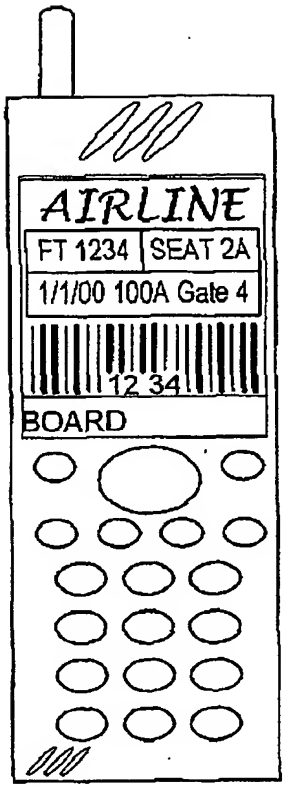
AIRLINE
FT 1234
SEAT 2A
1/1/00 100A Gate 4
12 34
BOARD

FIG. 22

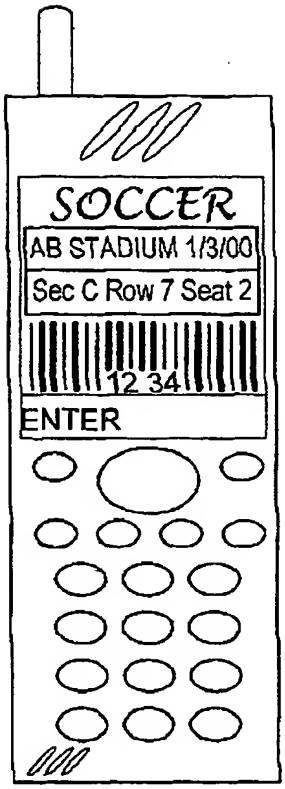
SOCCER
AB STADIUM 1/3/00
Sec C Row 7 Seat 2
12 34
ENTER

FIG. 23